Claims 44 to 59 are added as set forth hereinafter.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 to 27 (Cancelled).

28.   (Previously Presented)   A projection exposure system defining an optical axis and comprising:

an illuminating unit mounted on said optical axis for transmitting a light beam along said optical axis;

5   a projection objective arranged on said optical axis downstream of said illuminating unit;

a mask held in the beam path of said light beam between said illuminating unit and said projection objective;

a substrate holder for holding a substrate in said beam

10   path downstream of said projection objective; and,

said projection objective defining a maximum lens diameter and including:

a plurality of lenses defining an object plane and an image plane;

15   at least two of said lenses having respective mutually adjacent lens surfaces which are aspheric to define a double asphere;

said double asphere being mounted at a distance from said image plane corresponding at least to said maximum lens

20   diameter;

the lenses of said double asphere defining a mean lens

diameter; and,

said mutually adjacent lens surfaces being mounted at a
spacing from each other which is less than half of said mean
25   lens diameter.

29.   (Previously Presented)   A method of making a
microstructured component utilizing a projection exposure
system including an illuminating unit mounted on said optical
axis for transmitting a light beam along said optical axis; a
5   projection objective arranged on said optical axis downstream
of said illuminating unit; a mask held in the beam path of
said light beam between said illuminating unit and said
projection objective and said mask holding a pattern; a
substrate holder for holding a substrate in said beam path
10   downstream of said projection objective; and, said projection
objective defining a maximum lens diameter and including: a
plurality of lenses defining an object plane and an image
plane; at least two of said lenses having respective mutually
adjacent lens surfaces which are aspheric to define a double
15   asphere; said double asphere being mounted at a distance from
said image plane corresponding at least to said maximum lens
diameter; the lenses of said double asphere defining a mean
lens diameter; and, said mutually adjacent lens surfaces being
mounted at a spacing from each other which is less than half
20   of said mean lens diameter, the method comprising the steps
of:

providing said substrate as a substrate having a
light-sensitive layer thereon;

holding said substrate in said beam path exposing said
25   light-sensitive layer with ultraviolet laser light from said
illuminating unit; and,

developing the exposed light-sensitive layer to structure

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said substrate to have said pattern of said mask.

30. (Previously Presented) A refractive projection objective
comprising:

two lens groups of negative refractive power;

at least one of said lens groups of negative refractive

power including only two lenses of negative refractive power;

the other one of said lens groups of negative refractive

power having maximally two lenses of negative refractive

power; and,

said lens groups defining at least two constrictions and

an aspheric lens surface is arranged in the second

constriction.

31. (Previously Presented) The refractive projection

objective of claim 30, further comprising a lens group of

positive refractive power including at least one lens having

an aspheric surface; and, a diaphragm mounted in said lens

group of positive refractive power.

32. (Previously Presented) The refractive projection

objective of claim 30, further comprising at least two lenses

having respective mutually adjacent lens surfaces which are

aspheric to define a double asphere.

33. (Previously Presented) The refractive projection

objective of claim 30, wherein said refractive projection

objective defines a maximum lens diameter and said refractive

projection objective further comprises:

a plurality of lenses defining an object plane and an

image plane;

at least two of said lenses having respective mutually

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adjacent lens surfaces which are aspheric to define a double asphere;

said double asphere being mounted at a distance from said image plane corresponding at least to said maximum lens diameter;

the lenses of said double asphere defining a mean lens diameter; and,

said mutually adjacent lens surfaces being mounted at a spacing from each other which is less than half of said mean lens diameter.

34. (Previously Presented) The projection objective of claim 33, wherein said plurality of lenses defines at least two constrictions.

35. (Previously Presented) The projection objective of claim 33, comprising at least two of said double aspheres and said spacings thereof being equidistant.

36. (Previously Presented) The projection objective of claim 33, wherein the radii of the best-fitting spherical lens surfaces of one of said double aspheres differ from one another by less than 30%.

37. (Previously Presented) The projection objective of claim 33, wherein the apex radii of the best-fitting spherical lens surfaces of a double asphere, which are assigned to the respective aspheric lens surfaces, differ from one another by less than 30%.

38. (Previously Presented) The projection objective of claim 33, wherein the diameters of the first thirteen lens

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surfaces hardly differ from each other, preferably by less than 10%.

39. (Previously Presented) The projection objective of claim 33, wherein a numerical aperture of at least 0.8 is made available by the double asphere.

40. (Previously Presented) The projection objective of claim 33, wherein a numerical aperture of at least 0.9 is made available by the double asphere.

41. (Previously Presented) The projection objective of claim 33, wherein two mutually adjacent lens surfaces define an intermediate space chargeable with a fluid.

42. (Previously Presented) The projection objective of claim 33, wherein at least 40% of the lenses are spherical.

43. (Previously Presented) The projection objective of claim 33, wherein at least 60% of the lenses are spherical.

44. (New) A projection objective defining a maximum lens diameter and including:

a plurality of lenses defining an object plane and an image plane;

5   at least two of said lenses having respective mutually adjacent lens surfaces which are aspheric to define a double asphere;

said double asphere being mounted at a distance from said image plane corresponding at least to said maximum lens

10   diameter;

the lenses of said double asphere defining a mean lens

diameter;

said mutually adjacent lens surfaces being mounted at a spacing from each other which is less than half of said mean
15 lens diameter; and,

said projection objective being a refractive projection objective defining a maximum lens diameter and including:

at least five lens groups having lenses defining lens surfaces and defining an object plane and an image plane;
20 at least two of said lenses having respective mutually adjacent lens surfaces which are aspheric to define a double asphere; and,

said double asphere being mounted from said image plane at a distance of at least said maximum lens diameter.

45.   (New)   The refractive projection objective of claim 44, wherein said plurality of lenses defines at least two constrictions.

46.   (New)   The refractive projection objective of claim 44, wherein the aspheric surfaces are arranged on different lenses.

47.   (New)   The refractive projection objective of claim 45, wherein all aspheric are mounted ahead of the first constriction.

48.   (New)   The refractive projection objective of claim 44, comprising two of said double aspheres and the mutually adjacent lens surfaces of each double asphere are mounted at a spacing from each other of at most their mean half lens
5   diameter measured from the optical axis.

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49. (New) The refractive projection objective of claim 48,
wherein the mutually adjacent aspheric lens surfaces of each
of said aspheres defines an air gap measured on the optical
axis of a maximum of 20% of the mean radius of the
5   corresponding asphere.

50. (New) The refractive projection objective of claim 44,
wherein a numerical aperture of at least 0.8 is made available
by the double asphere.

51. (New) The refractive projection objective of claim 44,
wherein a numerical aperture of at least 0.9 is made available
by the double asphere.

52. (New) The refractive projection objective of claim 44,
wherein two mutually adjacent lens surfaces define an
intermediate space chargeable with a fluid.

53. (New) The refractive projection objective of claim 44,
wherein at least 40% of the lenses are spherical.

54. (New) The refractive projection objective of claim 44,
wherein at least 60% of the lenses are spherical.

55. (New)   A projection objective defining a maximum lens
diameter and including:
     a plurality of lenses defining an object plane and an
image plane;
5   at least two of said lenses having respective mutually
adjacent lens surfaces which are aspheric to define a double
asphere;
     said double asphere being mounted at a distance from said

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image plane corresponding at least to said maximum lens

10   diameter;

        the lenses of said double asphere defining a mean lens
diameter;

        said mutually adjacent lens surfaces being mounted at a
spacing from each other which is less than half of said mean

15   lens diameter; and,

        said projection objective being a refractive projection
objective including:

        two lens groups of negative refractive power; and,

        at least one of said lens groups of negative refractive

20   power including only two lenses of negative refractive power.

56.   (New)   The refractive projection objective of claim 55,
wherein the other one of said lens groups of negative
refractive power has maximally two lenses of negative
refractive power.

57.   (New)   The refractive projection objective of claim 56,
wherein said lens groups define at least two constrictions and
an aspheric lens surface is arranged in the second
constriction.

58.   (New)   The refractive projection objective of claim 56,
further comprising a lens group of positive refractive power
including at least one lens having an aspheric surface; and, a
diaphragm mounted in said lens group of positive refractive

5   power.

59.   (New)   The refractive projection objective of claim 55,
further comprising at least two lenses having respective
mutually adjacent lens surfaces which are aspheric to define a

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double asphere.